



DTU Mechanical Engineering
Department of Mechanical Engineering

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Highlights 2019

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Photos

Elos Medtech, Joachim Rode, Ed Robinson/AP Images for Shell, MADE, Aquapri, Danish Entrepreneurship Award, Mikal Schlosser.

Finances

23%

External national
public grants

19%

External national
private grants

DKK 220.4 million

54%

Research and education subsidies
(government funding)

1%

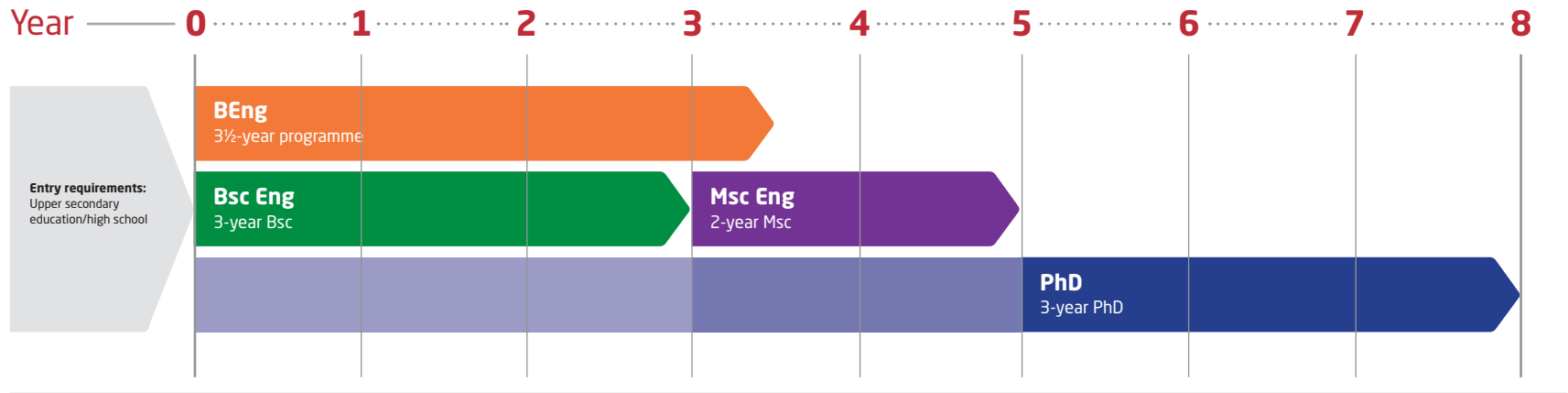
External international
private grants

3%

External international
public grants

Education

Completed Bachelor projects, Masters Projects and PhD theses 2019



BEng
21
Theses

BSc Eng
102
Theses

MSc Eng
190
Theses

PdD
34
Theses

Education in figures 2019

Courses and full-time study equivalents

246

Number of course units

663

STÅ production
(full-time study equivalents)

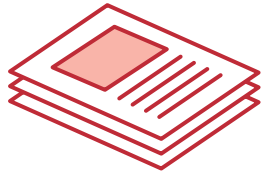
11

STÅ per faculty

4

Course units per faculty

Research in figures



307

Scientific articles in
WoS-indexed journals



150

Scientific contributions
to conferences



11.3

Citation impact



40

Publications with
industrial partners



34

No. of PhD theses



1

No. of Doctoral theses



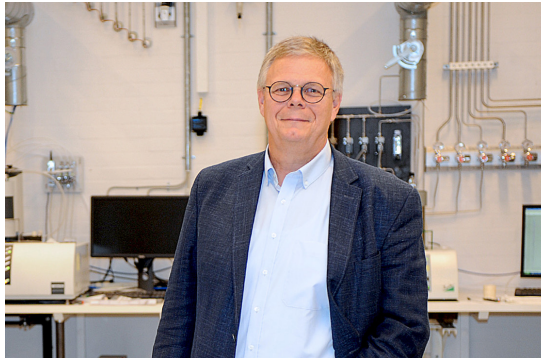
Selected awards and distinctions

Researchers and students at DTU Mechanical Engineering were acknowledged for their contributions during 2019. Below you see a selection of these.



Doctoral dissertation

Ulrik Dam Nielsen sheds in his doctoral dissertation new light on the measurement of wave energy and the impact ships are exposed to during voyages at sea.



Dual International Recognition

Professor Marcel A.J. Somers has been awarded the IFHTSE medal and invited to give a Lakhtin lecture for his unique contribution to the understanding and application of metal-gas reactions in thermo-chemical processes, as well as hardening through cryogenic treatments.



Grøn Dyst 1st Prize

The students Anders Daniel Rovsing, Jia Jue Johannes Chen and Christoffer Søholm Kristensen won the first prize with their project "Eco-redesign of snowboard by incorporation of recycled 'ocean plastics'".



First place at Shell ECO-marathon

Once again, the DTU Roadrunners won the international student competition for fuel efficiency.



MADE Award second prize

Nikolaos Giannakas is the winner of the Otto Moensted Foundation's MADE Award 2019 second prize.



DTU PhD of the Year

Fabian Bühler received the PhD Dissertation of the Year Award at the annual DTU PhD reception for his work on energy efficiency in the industry.



InnoEnergy PhD school

Valentin Salgado Fuentes has been accepted at the coveted InnoEnergy PhD school under the European Institute of Innovation and Technology (EIT).



Two students won SDG micro grant

Christoffer Cady and Anas Mehdawi won the SDG micro Grant at the Danish Entrepreneurship Award.

Selected grants and activities

A large number of project applications were granted during 2019. A selection of grants and specific activities is presented below.



New green fuel for ships

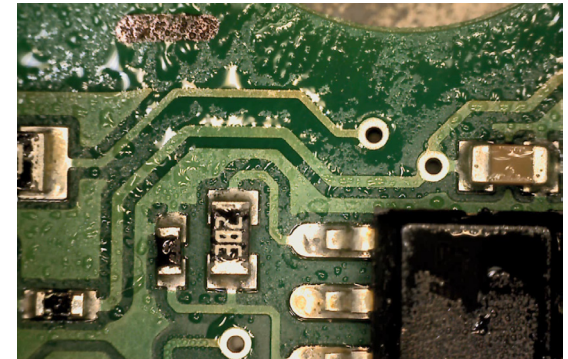
Anders Ivarsson directs a research project on more climate-friendly gas for the shipping-traffic produced from bio-waste and wind. The project is partly funded by Danish Ministry of Foreign Affairs and includes Chinese partners, Maersk Line, Alfa Laval, Green Hydrogen and Danfoss.

POUL DUE JENSEN GRUNDFOS
FOUNDATION



Poul Due Jensen Foundation grants

David Bue Pedersen received a grant to optimise the processes underlying the 3D printing technologies and publish the results on open platforms. Clara Marika Velte received a grant to build a laboratory that will contribute to the development of a new turbulence theory.



Electronic Systems Manufactured for Climate

The Innovation Fund Denmark has invested in the ELMAC-project which will use big data on climate to reduce the number of bugs in electronics. Rajan Ambat is in head of the project which also includes Danish companies as e.g. Danfoss, Grundfos and Vestas.



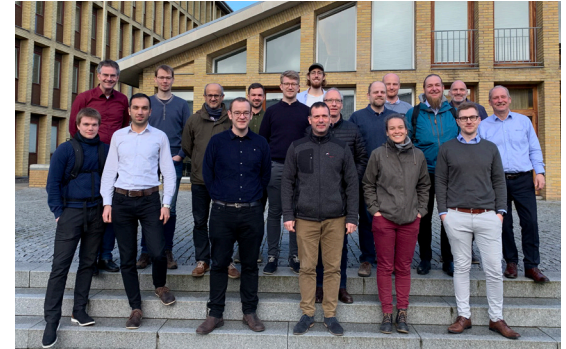
Dental implants soon to be completely white

Innovation Fund Denmark has invested in a project which will use new technology to make the surface of titanium used for dental implants white. Morten Stendahl Jellesen is in head of the research.



REPOWDER

The Independent Research Fund Denmark is funding a research project on design of metal powders for 3D printing. Dorte Juul Jensen is head of the project.



Digital twins

Digital twins for large heat pump and refrigeration systems is the topic for a research project granted by EUDP, which Brian Elmegaard directs.



MicronCrash

A grant from Villum Experiment makes it possible for Kim Lau Nielsen to research in Micron scale Crashworthiness of metal components.



HAV-TEK

Erik Damgaard Christensen will research in new technological solutions for marine farming in a project funded by GUDP, The Danish Environmental Protection Agency.



DIGIMAN

DIGItal MANufacturing Technologies for Zero-defect Industry 4.0 Production is founded by Horizon 2020. Guido Tosello is head of the project.

